



Form PTO-1449 (modified)

## LIST OF PRIOR ART CITED BY APPLICANT

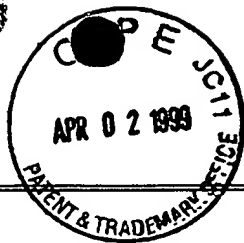
Sheet 1 of 5

Application No.: 09/237,605  
Filing Date: January 25, 1999  
First Named Inventor: Richard J. Lazzara  
Group Art Unit: 3738  
Examiner: Not Assigned  
Attorney Docket No.: IMPI:035--1

## U.S. PATENT DOCUMENTS

Examiner Initial	Ref.	Document Number	Date	Name	Class	Sub-Class	Filing Date (if Application)
PBP	A1	3,855,638	12/24/74	Pilliar	3	1	
	A2	4,145,764	03/27/79	Suzuki et al.	3	1.9	
	A3	4,195,409	04/01/80	Child	433	175	
	A4	4,547,157	10/15/85	Driskell	433	173	
	A5	4,722,688	02/02/88	Lonca	433	173	
PBP	A6	4,818,559	04/04/89	Hama et al.	427	2	
	A7	<del>4,826,434</del>	<del>05/02/89</del>	<del>Krueger</del>	<del>433</del>	<del>174</del>	
PBP	A8	4,874,434	10/17/89	Riggs Jr.	134	3	
	A9	4,908,030	03/13/90	Linkow et al.	623	16	
	A10	4,911,953	03/27/90	Hosonuma et al.	427	224	
	A11	4,944,754	07/31/90	Linkow et al.	623	16	
	A12	5,000,685	03/19/91	Brainovic	433	173	
	A13	5,030,096	07/09/91	Hurson et al.	433	173	
	A14	5,071,351	12/10/91	Green et al.	422	23	
	A15	5,188,800	02/23/93	Green et al.	433	173	
	A16	5,190,795	03/02/93	Culler	427	226	
	A17	5,205,745	04/27/93	Kamiya			
	A18	5,297,963	03/29/94	Dafatry	433	172	
	A19	5,316,476	05/31/94	Krauser	433	173	
	A20	5,316,477	05/31/94	Calderon	433	173	
PBP	A21	5,344,425	09/06/94	Sawyer	606	198	
	A22	<del>5,344,457</del>	<del>09/06/94</del>	<del>Pilliar et al.</del>	<del>623</del>	<del>16</del>	
	A23	<del>5,360,448</del>	<del>11/19/94</del>	<del>Thramann</del>	<del>623</del>	<del>18</del>	
PBP	A24	5,362,237	11/08/94	Chalifoux	433	220	
PBP	A25	5,368,480	11/29/94	Balfour et al.	433	141	
PBP	A26	5,368,483	11/29/94	Sutter et al.	433	173	
PBP	A27	5,399,090	03/31/95	Padros-Fradera	433	173	

\*Examiner: Initial if citations considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



Form PTO-1449 (modified)

**LIST OF PRIOR ART CITED BY APPLICANT**

Sheet 2 of 5

Application No.: 09/237,605  
 Filing Date: January 25, 1999  
 First Named Inventor: Richard J. Lazzara  
 Group Art Unit: 3738  
 Examiner: Not Assigned  
 Attorney Docket No.: IMPI:035--1

**U.S. PATENT DOCUMENTS (continued)**

Examiner Initial	Ref.	Document Number	Date	Name	Class	Sub-Class	Filing Date (if Application)
PPR	A28	5,433,606	07/18/95	Niznick et al.	433	173	
	A29	5,456,723	10/10/95	Steinemann et al.	623	16	
	A30	5,478,237	12/26/95	Ishizasawa	433	201.1	
	A31	5,489,210	02/06/96	Hanosh	433	173	
	A32	5,503,558	04/02/96	Clokic	433	173	
	A33	5,564,923	10/15/96	Grassi et al.	433	173	
	A34	5,571,017	11/05/96	Niznick	433	174	
PPR	A35	5,573,401	11/12/96	Davidson et al.	433	201.1	
	A36	<del>5,588,838</del>	<del>12/31/96</del>	<del>Hansson et al.</del>	<del>433</del>	<del>173</del>	
	A37	<del>5,603,338</del>	<del>02/18/97</del>	<del>Beaty</del>	<del>623</del>	<del>16</del>	
	A38	<del>5,863,201</del>	<del>01/26/99</del>	<del>Lazzara et al.</del>	<del>433</del>	<del>201.1</del>	
	A39	<del>5,876,453</del>	<del>03/02/99</del>	<del>Beaty</del>	<del>623</del>	<del>16</del>	

**FOREIGN PATENT DOCUMENTS**

Examiner Initial	Ref.	Document Number	Date	Country	Class	Sub-Class	Translation Yes/No
PPR	B1	EP 606 566 A1	07/20/94	EPO			
	B2	<del>CH 679117 A5</del>	<del>12/31/91</del>	<del>Switzerland</del>			<del>No</del>
PPR	B3	GB 2,252,501 A	08/12/92	U.K.			
	B4						
	B5						

**OTHER DOCUMENTS (including author, title, date, pertinent pages, etc.)**

Examiner Initial	Ref.	Document Information
PPR	C1	Albrektsson, T., et al., "Osseointegrated Titanium Implants" (1991)
PPR	C2	Baier, R. E., et al., "Implant Surface Preparation," <i>International Journal of Oral &amp; Maxillofacial Implants</i> , Volume 3, pp. 9-20 (1988)

\*Examiner: Initial if citations considered, whether or not citation is in conformation with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



Form PTO-1449 (modified)

**LIST OF PRIOR ART CITED BY APPLICANT**

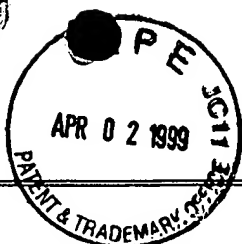
Sheet 3 of 5

Application No.: 09/237,605  
 Filing Date: January 25, 1999  
 First Named Inventor: Richard J. Lazzara  
 Group Art Unit: 3738  
 Examiner: Not Assigned  
 Attorney Docket No.: IMPI:035--1

**U.S. PATENT DOCUMENTS (continued)**

Examiner Initial	Ref.	Document Number	Date	Name	Class	Sub-Class	Filing Date (if Application)
DBP	C3	Baier, R. E., et al., "Surface Energetics And Biological Adhesion," <i>International Symposium on Physicochemical Aspects of Polymer Surfaces</i> , Volume 2, pp. 895-909 (no date)					
ABP	C4	Binon, P., "Evaluation Of Machining Accuracy And Consistency Of Selected Implants, Standard Abutments, And Laboratory Analogs," <i>International Journal of Prosthodontics</i> , Volume 8, pp. 162-178 (1995)					
PPB	C5	Bowers, K., et al., "Optimization Of Surface Micromorphology For Enhanced Osteoblast Responses In Vitro," <i>International Journal of Oral &amp; Maxillofacial Implants</i> , Volume 7, No. 3, pp. 302-310 (1992)					
	C6	<del>Branemark, P.I., et al., "Osseointegrated Implants In The Treatment Of The Edentulous Jaw Experience From A 10 Year Period," <i>Stockholm, Almqvist &amp; Wiksell International</i> (1977)</del>					
ABP	C7	Buser, D., et al., "Influence Of Surface Characteristics On Bone Integration Of Titanium Implants, A Histomorphometric Study In Miniature Pigs," <i>Journal of Biomedical Materials Research</i> , Volume 25, pp. 889-902 (1991)					
DBP	C8	Carlsson L., et al., "Removal Torques For Polished And Rough Titanium Implants," <i>International Journal of Oral &amp; Maxillofacial Implants</i> , Volume 3, pp. 21-24 (1988)					
PPB	C9	Cook, S., et al., "Fatigue Properties Of Carbon- And Porous-Coated Ti-6Al-4V Alloy," <i>Journal of Biomedical Materials Research</i> , Volume 18, pp. 497-512 (1984)					
	C10	<del>Curtis, A. S. G., et al., "The Effects Of Topographic And Mechanical Properties Of Materials On Cell Behavior," <i>Critical Reviews in Biocompatibility</i>, Volume 5, Issue 4, pp. 343-362 (1990)</del>					
	C11	<del>de Groot, K., et al., "Plasma Sprayed Coatings Of Hydroxylapatite," <i>Journal of Biomedical Materials Research</i>, Volume 21, pp. 1375-1381 (1987)</del>					
PPB	C12	Eberhardt, A., et al., "Effects Of Precoating Surface Treatments On Fatigue Of Ti-6Al-4V," <i>Journal of Applied Biomaterials</i> , Volume 6, pp. 171-174 (1995)					
PPB	C13	Ingemar, Olefjord, et al., "Surface Analysis Of Four Dental Implant Systems," <i>International Journal of Oral &amp; Maxillofacial Implants</i> , Volume 8, No. 1, pp. 32-40 (1993)					
	C14	<del>Kasemo, B., et al., "Metal Selection And Surface Characteristics," <i>Tissue Integrated Prostheses Osseointegration In Clinical Dentistry</i> (Quintessence Books), pp. 99-116 (1985)</del>					
	C15	<del>Kjoldkveid, P., et al., "Evaluation Of A New Chemically Enhanced Implant Surface By Torque Removal Tests In The Rabbit Femur," <i>Clinical Oral Implants Research</i> (1997)</del>					
	C16	<del>Lazzara, R., et al., "Retrospective Multicenter Analysis Of 31 Endosseous Dental Implants Placed Over A Five Year Period," <i>Clinical Oral Implants Research</i>, Volume 7, pp. 73-83 (1996)</del>					
PPB	C17	Ledermann et al., "The Ha-Ti Implant," <i>Schweiz Monatsschr Zahnmed</i> , Volume 101, No. 5, 7 pages (May 1991)					
	C18	<del>Messersmith, P., et al., "Stress Enhancement And Fatigue Susceptibility Of Porous Coated Ti-6Al-4V Implants: An Elastic Analysis," <i>Journal of Biomedical Materials Research</i>, Volume 24, pp. 591-604 (1990)</del>					

\*Examiner: Initial if citations considered, whether or not citation is in conformation with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



Form PTO-1449 (modified)

**LIST OF PRIOR ART CITED BY APPLICANT**

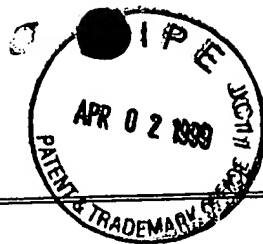
Sheet 4 of 5

Application No.: 09/237,605  
 Filing Date: January 25, 1999  
 First Named Inventor: Richard J. Lazzara  
 Group Art Unit: 3738  
 Examiner: Not Assigned  
 Attorney Docket No.: IMPI:035--1

**U.S. PATENT DOCUMENTS (continued)**

Examiner Initial	Ref.	Document Number	Date	Name	Class	Sub-Class	Filing Date (if Application)
	C19	<del>Reedeck, Paul, et al., "Attachment Of Bone To Threaded Implants By Ingrowth And Mechanical Interlocking,"</del> <del>Journal of Biomedical Materials Research, Volume 6, pp. 401-412 (1972)</del>					
	C20	<del>Schulte, J., "External Hex Manufacturing Tolerances Of Six Implant Systems: A Pilot Study,"</del> <del>Implant Dentistry, pp. 51-53 (Spring 1994)</del>					
PPD	C21	Shultz, R. R., et al., "A Study Of Fatigue Properties Of Hydroxylapatite Coated Titanium Alloy Implant Materials," Department of Biomedical Engineering, Memphis State University (no date)					
	C22	<del>Sorenson, J., et al., "Comparison Of Interface Fidelity Of Implant Systems,"</del> <del>Journal of Dental Research, Volume 70, No. 540, Abstract No. 2191 (1991)</del>					
	C23	<del>Sullivan, Daniel, et al., "Preliminary Results Of A Multicenter Study Evaluating Chemically Enhanced Pure Titanium Implants,"</del> <del>Journal of Prosthetic Dentistry (1997)</del>					
PPD	C24	Sutter et al., "The New Restorative Concept Of The ITI Dental Implant System: Design And Engineering," Volume 13, No. 5, pp. 408-413 (1993)					
PPD	C25	Tarnow, Dennis P., DDS, "Dental Implants In Periodontal Care," <i>Current Science</i> , pp. 157-162 (1993)					
	C26	<del>Thomas, K. A., et al., "The Effect Of Surface Macrotexture And Hydroxylapatite Coating On The Mechanical Strengths And Histologic Profiles Of Titanium Implant Materials,"</del> <del>Journal of Biomedical Materials Research, Volume 21, pp. 1395-1414 (1987)</del>					
	C27	<del>Weinlaender, M., et al., "Histomorphometry Of Bone Apposition Around Three Types Of Endosseous Dental Implants,"</del> <del>International Journal of Oral &amp; Maxillofacial Implants, Volume 7, No. 4, pp. 491-496 (1992)</del>					
PPD	C28	Wennerberg, A., et al., "Design And Surface Characteristics Of 13 Commercially Available Oral Implant Systems," <i>International Journal of Oral &amp; Maxillofacial Implants</i> , Volume 8, No. 6, pp. 622-633 (1993)					
	C29	<del>Wheeler, Stephen L., "Eight Year Clinical Retrospective Study Of Titanium Plasma-Sprayed And Hydroxyapatite-Coated Cylinder Implants,"</del> <del>International Journal of Oral &amp; Maxillofacial Implants, Volume 11, No. 3, pp. 340-350 (1996)</del>					
PPD	C30	Wilke, H. J., et al., "The Influence Of Various Titanium Surfaces On The Interface Shear Strength Between Implants And Bone," <i>Advances in Biomaterials</i> , Elsevier Science Publishers B.V., Amsterdam, Volume 9, pp. 309-314 (1990)					
	C31	<del>Wong, M., et al., "Effect Of Surface Topology On The Osseointegration Of Implant Materials In Trabecular Bone,"</del> <del>Journal of Biomedical Materials Research, Volume 29, pp. 1567-1575 (1995)</del>					
	C32	<del>Yue, S., et al., "The Fatigue Strength Of Porous-Coated Ti-6%Al-4%V Implant Alloy,"</del> <del>Journal of Biomedical Materials Research, Volume 18, pp. 1043-1058 (1984)</del>					
PPD	C33	"Ion-Beam-Sputter Modification Of The Surface Morphology Of Biological Implants," <i>J. Vac. Soc. Technol.</i> , Volume 14, No. 1, pp. 326-331 (January/February 1977)					
PPD	C34	"Short-Term Plasma-Cleaning Treatments Enhance In Vitro Osteoblast Attachment To Titanium," <i>Journal of Oral Implantology</i> , Volume XVIII, No. 2, pp. 130-137 (1992)					

\*Examiner: Initial if citations considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



Form PTO-1449 (modified)

**LIST OF PRIOR ART CITED BY APPLICANT**

Sheet 5 of 5

Application No.: 09/237,605  
Filing Date: January 25, 1999  
First Named Inventor: Richard J. Lazzara  
Group Art Unit: 3738  
Examiner: Not Assigned  
Attorney Docket No.: IMPI:035--1

**U.S. PATENT DOCUMENTS (continued)**

Examiner Initial	Ref.	Document Number	Date	Name	Class	Sub-Class	Filing Date (if Application)
<i>PP</i>	C35	"Step-Screw Implant," <i>Dental Products Report</i> (March 1993)					
EXAMINER <i>Paul Prebilic</i>				DATE CONSIDERED <i>6-29-00</i>			

\*Examiner: Initial if citations considered, whether or not citation is in conformation with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.